

Strongly-Driven Laser Plasmas with Self-Consistent Electron Distributions*

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In high temperature hohlraums and many other applications,¹ the laser heated electrons have a zeroth-order distribution function which is quite different ^{2,3} from Maxwellian. The numerous consequences include changes in the Landau damping and instability thresholds, reductions in the inverse bremsstrahlung coefficient, as well as changes in the heat transport, density profiles and atomic physics. In addition, unexpected absorption processes can be introduced. These absorption mechanisms are discussed and illustrated in fluid and PIC simulations.

1. For example, see talks by T. Orzechowski and R. Kirkwood (Anomalous Absorption Conference 1996).
2. A. B. Langdon, Phys. Rev. Lett 44, 575 (1980); R. Jones and K. Lee, Phys Fluids 25, 2307 (1982).
3. For general distributions, see J.P. Matte et al., Plasma Phys. Conf. Fusion 30, 1665 (1988).

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